

What is claimed is:

414/89 5 1. A method of supplying a bulk quantity of moist grain by-product using rail transport, the method comprising:

loading a bulk quantity of moist grain by-product into an invertible railroad container to provide a railroad container which contains moist grain by-product;

10 transporting the railroad container containing moist grain by-product; and

inverting the railroad container with the grain by-product thereby removing the moist grain by-product from the inverted railroad container.

15 2. The method of claim 1, further comprising:

covering the moist grain by product in the railroad container; and

uncovering the moist grain by-product in the
20 railroad container prior to inverting the railroad container to remove the moist grain by-product.

25 3. The method of claim 2, further comprising covering the moist grain by-product with a tarp.

4. The method of claim 2, further comprising removing the moist grain by-product from the inverted railroad container to at least one grain moving device which is below a grade of the inverted railroad
30 container.

5. The method of claim 4, further comprising transferring the moist cereal grain by-product from the grain moving device to a transportation vehicle for

distribution to users of the moist cereal grain by-product.

6. A method of supplying a bulk quantity of moist cereal grain by-product using rail transport, the method comprising:

loading a bulk quantity of moist cereal grain by-product into an invertible railroad container to provide a railroad container containing cereal grain by-product;

10 covering the moist cereal grain by-product in the railroad container;

transporting the railroad container containing the moist cereal grain by-product;

15 uncovering the moist cereal grain by-product in the railroad container in which the by-product was covered;

inverting the railroad container with the moist cereal grain by-product corn, thereby removing the moist cereal grain by-product from the railroad container; and

20 removing the moist cereal grain by-product from the inverted railroad container onto a grain by-product moving device which is below the grade of the inverted railroad container.

7. The method as recited in claim 6, further comprising transferring the moist cereal grain by-product from the grain moving device to a transportation vehicle for distribution to users of the moist cereal grain by-product.

30 8. The method as recited in claim 6, wherein the railroad in aluminum and the covering of the moist cereal grain by-product is with a flexible tarp.

414/354
9. A system for transporting a bulk quantity of moist grain by-product comprising:

- a railroad container body;
- a plurality of trucks carrying the railroad
- 5 container body;
- a railroad container inverter; and
- a conveyor for receiving the moist grain by-product from the inverted railroad container body.

10 10. The system of claim 9, further comprising a transportation vehicle for distributing the moist grain by-product to users of the moist grain by-product.

11. The system of claim 9, further comprising a
15 wind screen located above and adjacent to at least one end of said railroad container body, the wind screen having at least one surface which is effective for deflecting air current which is generated in a direction opposite to movement of the container body when the
20 container body is moving as part of a railroad car.

12. The system of claim 9, further comprising a flexible cover for covering at least a portion of a quantity of moist cereal by-product within said railroad
25 container body.

13. The system of claim 12, further comprising at least one supporting rib connected to the railroad container body for supporting the flexible cover and
30 having a breakaway portion which can be severed under a load from the moist grain by-product on the rib when the railroad container is inverted.

14. The system of claim 9, wherein the railroad container body is corrosion resistant.

15. The system of claim 13, wherein the railroad container body is aluminum.

16. A system for transporting moist cereal grain by-product, comprising:

an open railroad container body comprised of aluminum;

a plurality of trucks carrying said railroad container body;

a wind screen located above and adjacent to at least one end of said railroad container body, the wind screen having at least one surface which is effective to deflect air current which is generated in a direction opposite to movement of the container when the container is moving as part of a railroad car;

a flexible cover for covering at least a portion of a quantity of moist cereal by-product within said railroad container body;

at least one supporting rib connected to the railroad container body for supporting the flexible cover and having a breakaway portion which can be severed under a load from moist cereal grain by-product on the rib when the railroad container is inverted;

a railroad container inverter; and

a conveyor for receiving moist cereal by-product from the inverted railroad container and transporting the by-product.

17. A system for transporting a bulk quantity of moist grain by-product comprising:

a railroad container body comprised of aluminum;

a plurality of trucks carrying the railroad container body;

5 a wind screen located above and adjacent to at least one end of the railroad container body, the wind screen having at least one surface which is effective for deflecting air current which is generated in a direction opposite to the movement of the container when the container when the container is moving as part of a railroad car;

10 a flexible cover for covering at least a portion of a quantity of moist grain by-product within the railroad container body;

15 at least one supporting rib connected to the railroad container body for supporting the flexible cover and having a breakaway portion which can be severed under a load from the moist grain by-product on the rib when the railroad container body is inverted;

a railroad container inverter;

20 a conveyor for receiving moist grain by-product from the inverted railroad container; and

a transportation vehicle for distributing the moist grain by-product to users of the moist grain by-product.

25 18. The system of claim 17, wherein the moist grain by-product is a cereal grain by-product.

19. A system for transporting a bulk quantity of moist grain by-product comprising;

30 a train having at least about 50 railroad cars having inner-side walls and a floor which are adapted for hauling moist grain by-product;

a railroad car inverter; and

a conveyor for receiving the moist grain by-product from the inverted railroad car when the car is inverted

to unload the moist grain by-product.

20. The system of claim 19, further comprising a transportation vehicle for distributing the moist grain by-product to users of the moist grain by-product.

21. The system of claim 19, further comprising a wind screen located above and adjacent to at least one end of each or the railroad cars, the wind screen having at least one surface which is effective for deflecting air current which is generated in a direction opposite to movement of the car when it is moving.

22. The system of claim 19, further comprising a flexible cover for covering at least a portion of the moist cereal by-product within the railroad car.

23. The system of claim 22, wherein the tarp is supported by a plurality of supporting ribs, the ribs having a breakaway portion which can be severed under a load from the moist grain by-product on the rib when the railroad car is inverted.

24. The system of claim 19, wherein the railroad car is corrosion resistant.

25. The system of claim 19, wherein the railroad car is aluminum.

26. A system for transporting a bulk quantity of moist grain by-product comprising:

a train having at least about 50 railroad cars having inner-side walls and a floor which are adapted for hauling moist grain by-product comprised of aluminum;

a wind screen located above and adjacent to at least one end of each of the railroad cars, the wind screen having at least one surface which is effective for deflecting air current which is generated in a direction
5 opposite to movement of the car when it is moving;

a flexible cover for covering at least a portion of the moist cereal by-product within the railroad car that is supported by a plurality of supporting ribs, the ribs having a breakaway portion which can be severed under a
10 load from the moist grain by-product on the rib when the railroad car is inverted;

a railroad container inverter;

a conveyor for receiving the moist grain by-product from the inverted railroad car when the car is inverted
15 to unload the moist grain by-product; and

a transportation vehicle for distributing the moist grain by-product to users of the moist grain by-product.

27. The system of claim 26, wherein the moist grain
20 by-product is a cereal grain by-product.

28. A system for transporting moist grain by-product, the system comprising:

a train having at least about 50 open railroad cars
25 having corrosion-resistant, inner-side walls and floor which are adapted for hauling moist grain by-product;

a wind screen located above and adjacent to at least one end of each of the railroad cars, the wind screen having at least one surface which is effect for
30 deflecting air current which is generated in a direction opposite to movement of the car when it is moving;

a flexible cover for covering at least a portion of the moist cereal grain by-product when the product is loaded into the car;

a railroad car inverter;

a conveyor for receiving the moist cereal by-product from the railroad car when the car is inverted to unload the moist cereal grain by product; and

- 5 the open railroad cars in the train effective for storing the moist grain by-product as it is produced without the need for storing the by-product at a production site which produces the moist grain by-product.

10

29. A system as recited in claim 28, wherein the open railroad cars comprise aluminum and the tarp is supported by a plurality of supporting ribs when covering the grain by-product, the ribs having a breakaway portion
15 which can be severed under a load from the by-product when the railroad car is inverted to unload it.

30. A tarp assembly for selectively covering an open top of a railway car, the tarp assembly comprising:

20

a tarp selectively movable between an open position allowing access to an interior of the railway car and a closed position limiting access to the interior of the railway car; and

- a frame attachable to the railway car for supporting
25 the tarp in the closed position.

31. A tarp assembly as recited in claim 30, further comprising:

- a windscreen positioned at an end of the railway car
30 effective to reduce air flow beneath the tarp in the closed position for preventing the tarp from significantly rising relative to the frame.

32. A tarp assembly according to claim 30, wherein the frame does not protrude substantially beyond sides and ends of the railway car.

5 33. A tarp assembly according to claim 30, wherein the tarp has an end secured relative to a first longitudinal side of the railway car and an opposite end attached to a rod, and the frame includes an elongate member attached at a second longitudinal side of the
10 railway car opposite the first longitudinal side, the elongate member having a groove therein for receiving the rod when the tarp is in the closed position effective to secure the end of the tarp having the attached rod.

15 34. A tarp assembly according to claim 33, wherein the frame includes a pair of end assemblies positioned at opposite ends of the railway car, the end assemblies being configured to provide a surface for contacting of the railway car with an inverter for rotating the railway
20 car to an upended position.

35. A tarp assembly according to claim 34, wherein the frame comprises a plurality of rib members extending between the first and second longitudinal sides of the
25 railway car for supporting the tarp.

36. A tarp assembly according to claim 35, wherein the rib members each comprise a rib element pivotably attached via a hinge to a side of the railway car and a
30 shank element attached to an opposite side of the railway car, the shank and rib elements telescopingly slidable with respect to each other between a position extending between the sides of the railway car for supporting the tarp, and a position whereby the rib elements are

separable from the shank elements to allow the rib elements to pivot about the hinges upon exertion of sufficient force.

5 37. A tarp assembly according to claim 36, wherein the tarp is wound around the rod when moving to the open position allowing access to the interior of the railway car.

10 38. A method of selectively allowing or restricting access to an interior of a railway car via an open top end thereof, the method comprising:

 providing a tarp movable between an open position allowing access to the interior of the railway car and a
15 closed position restricting access to the interior of the railway car, the tarp having first and second edges;

 attaching a frame to the railway car for supporting the tarp between sides and ends of the railway car; and

 sizing the frame to not substantially protrude
20 beyond the sides and ends of the railway car.

 39. A method according to claim 38, including positioning a windscreen proximate at least one end of the railway car, the windscreen effective to reduce air
25 flow beneath the tarp when the tarp is in the closed position.

 40. A method according to claim 39, including:
 securing the first edge of the tarp to a first side
30 of the top end of the railway car;

 providing a rod secured to the second edge of the tarp;

 securing the rod to a second side of the top end of the railway car, the second side being opposite the first

side, for restricting access to the interior of the railway car; and

winding the tarp around the rod for permitting access to the interior of the railway car.

5

41. A method according to claim 40, comprising providing surfaces on the top end of the railway car for contact by an inverter for rotating the railway car to an upended position.

10

42. A method according to claim 41, comprising supporting the tarp in the closed position with a plurality of rib members extending between the first and second sides of the railway car.

15

43. A method according to claim 42, comprising adapting the rib members to disconnect relative to a side of the railway car to pivot about a hinge relative to the opposite side upon exertion of sufficient force thereon.

20

44. A method according to claim 43, comprising blocking air from flowing underneath the tarp with a wind screen positioned at ends of the railway car between the first and side sides thereof.

25

1003493 12201